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NEW CAREERS IN MIDDLE AGE, SEPARATUM TO PROCEEDINGS OF THE INTERNATIONAL CONGRESS OF GERONTOLOGY (7TH, VIENNA, JUNE 26-JULY 2, 1966).

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SERIOUS PROBLEMS EXIST IN RETRAINING OLDER WORKERS, BUT WHERE AN APPROPRIATE METHOD OF TRAINING CAN BE DEVELOPED, OLDER TRAINEES CAN ACHIEVE RESULTS COMPARABLE WITH THOSE OF THEIR YOUNGER COLLEAGUES. SPECIFIC REQUIREMENTS OF THE MIDDLE-AGED LEARNER INCLUDE LONG AND UNINTERRUPTED LEARNING SESSIONS, GREATER CONSOLIDATION OF LEARNING BEFORE NEW SKILLS ARE ATTEMPTED, ACCURATE RESPONSES AND RAPID FEEDBACK DURING LEARNING, SELF-STRUCTURED LEARNING PROGRAMS AND AVOIDANCE OF COMPETITION, AND ACTIVE MENTAL PARTICIPATION DURING LEARNING (LEARNING BY DISCOVERY RATHER THAN BY ROTE). PROBLEMS OF STEERING OLDER WORKERS INTO TRAINING CAN BE ALLEVIATED THROUGH PERSONAL COUNSELING AND THE USE OF GROUP TRAINING. HOME STUDY COMBINED WITH PERIODIC PRACTICAL TRAINING AND GROUP TUTORIALS HAS BEEN SUCCESSFUL, ESPECIALLY WHEN TRAINEES HAVE HAD SOME LEARNING ACTIVITY SINCE LEAVING SCHOOL. REAL EMPLOYMENT SECURITY RESTS ON THE ABILITY TO MOVE FROM ONE JOB TO ANOTHER AND HERE TRAINING OF THE MIDDLE-AGED IN NEW SKILLS PLAYS A VITAL ROLE. THE YOUNG WORKER, TOO, MUST ACCEPT LIFELONG LEARNING IN A FLEXIBLE PATTERN OF WORK AND STUDY. THIS DOCUMENT IS THE SEPARATUM TO THE PROCEEDINGS OF THE INTERNATIONAL CONGRESS OF GERONTOLOGY (7TH, VIENNA, AUSTRIA, JUNE 26-JULY 2,1966). (AJ)

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NEW CAREERS IN MIDDLE AGE

- EUNICE BELBIN and R.M. BELBIN

One question which must have been encountered by almost every gerontologist is from what age does the study of ageing commence. This seemingly straightforward question is likely to elicit a devious reply and one that will vary with the speciality of the gerontologist. Ageing begins from birth. But, as gerontologists, our interests are likely to be confined only to part of the ageing process. Our common interest would seem to lie in the study of diminishing capacity. On this criterion, the study of the problems of age and adaptation to new work will oblige us to consider age groups younger than those which figure in most gerontological studies. The problems to which we shall refer are likely to be evident not only in the 50's and 60's age groups, but also in the 30's and 40's and may, in certain classes of industrial work, manifest themselves as early as the late 20's.

It may be diminishing capacity or it may be prejudice which accounts for the employment difficulties of middle-aged workers. But whatever the interpretation, it seems that these difficulties are being magnified by rapid changes in the occupational structures of industrial societies. There is growing recognition that redundant middle-aged workers face hardship and downgrading even in full employment economies. Our object in this paper will be to consider the contribution that can be made by training the middle-aged for new work, to review the progress that has already been made and to assess to what newer areas of study we should devote our attention.

The job prospects of re-employment in so far as age is a significant factor depend on the extent to which the worker is considered sufficiently flexible and adaptable to meet the demands of a new situation. The greater the amount of skill involved, the more important flexibility, adaptability and trainability become. And today skill is at a premium; the completely unskilled jobs which for long

have been the traditional refuge of the older or incapacitated worker are being steadily whittled away. The industrial gerontologist must therefore orientate his efforts around problems of adjustment between men and jobs. He will need to further his interest in and support for programmes aimed at retraining redundant mature adults for new and more highly skilled work. Unless this need is generally appreciated we shall witness the emergence of middle-aged workers as an under-privileged group. Economically viable solutions must be found rather than charitable ones. The first step in this direction is to recognise that retraining is the means by which adult workers can continue to adjust themselves to the exigencies of a rapidly changing society.

In a number of countries the challenge to retrain the middle-aged has been accepted and this is now being followed by the adoption of important policies and programs.
In the U.S.A. by the Manpower Development and Training Act;

In Great Britain by the Industrial Training Act and by the expansion in the number of Government Training Centres for Adults;
In France by the programme of the Federation of French Industries (C.N.P.F.) and by the great work of the F.P.A. with now almost 100 centres throughout France for the vocational training of adults;
In Sweden by an extensive public programme whereby fully 1% of the adult population is being retrained for new industrial skills.
Efforts in these countries are relatively well publicised and documented. Other examples, less well-known, may be cited from countries widely separated both in their geography and in their culture patterns -
Norway has successfully trained 400 adult workers for the Merchant marine. Recruits for training up to the age of 59 years have been drawn from occupations as diverse from each other and from seafaring work as agriculture, forestry, building and even office work.
Costa Rica is establishing a National Institute of Apprenticeship with special programmes of accelerated

training for adults.
Poland is building up teaching units in its Workers Technical Colleges specializing in the teaching of adults.

These programmes seem to be developing on a wide front. In this way a contribution is being made not only to the personal well-being of the middle-aged but also to the economic growth of the countries concerned.

Nevertheless, the increased provision of retraining fadilities does not remove the problems associated with ageing and adaptation. Indeed it has served to highlight them. Where reliable figures have been collected on admission rates, performance during training and success in subsequent placement, age has invariably stood out as a significant factor. It is here that we must ensure that there exists a strong body of facts. Those who are formulating new programmes must have to hand the results of research if these programmes are not to fall short of their objectives.

The first problem to consider is that of older worker pedagogy. Are programmes for the middle-aged to be based on methods used for young recruits? If not, how should they differ and why?

In the United Kingdom, much of our knowledge of the way in which performance changes with age stems from the Nuffield Research Unit into Problems of Ageing which operated in Cambridge during the 1950's under Dr. A.T. Welford. What we have learned during the last few years is how to put such knowledge to good effect. The results of applied studies during the period since our last Congress have confirmed the value to be gained from studying intensively the nature of the difficulties in adult training. These difficulties include:-

a) Among manual skills, that of establishing a controlled performance where some form of speed stress is present and the difficulty of discarding wrongly learned responses.
b) The difficulties in acquiring skills where memorizing is entailed. Here there are the problems of mental

interference, characterized by the presence of irrelevant or distracting stimuli which cause forgetting; (older people are especially liable to disruption of short-term memory traces).

c) Further difficulties occur in skills which entail the development of understanding. These skills are likely to increase with automation as manipulative skills tend to diminish. There is here the problem of finding a suitable framework in which effective assimilation can take place. (The older learner is depressed by situations which he finds difficult to comprehend, yet unmotivated by those which he regards as childs' play).

These are but a few of the difficulties encountered in adult training. Research in Great Britain has concentrated on a practical means of overcoming such psychological difficulties by the redesign of training methods.

Work in this area has allowed us to reach two important generalisations about training methods:-

1. First that serious problems do exist, which, if ignored, are liable to lead to failures in training and to discrimination against the middle-aged entrant. For example, the difficulties of middle-aged trainee sewing machinists have resulted in a policy which is now prevalent throughout the clothing industry in many countries of excluding all entrants over the age of 25. The effect of this has been to unbalance the age structure of the industry and in some cases to cause acute labour shortage.

2. The second generalisation is that where an appropriate method of training can be developed, older trainees often achieve results comparable with those of their younger colleagues. Training Method appears to be far more crucial for the old than for the young.

From a practical point of view the specific requirements of the middle-aged learner include -

(a) First, and perhaps rather surprisingly, long and uninterrupted learning sessions.

(b) Greater consolidation of learning before

attempting new aspects of the skill - accomplished best perhaps by what we have termed cumulative part learning.

(c) The need for accurate responses and rapid feedback during learning in order to avoid the difficulties of unlearning.

(d) Self structuring of the learning programme within his own time limits and avoidance of competition which is likely to produce 'paced' conditions.

(e) And above all - the need for active mental participation during learning. This is best achieved, perhaps, by deductive or inferential learning - learning by discovery rather than learning by imitation or by rote.

During the period since our last Congress, this work has been well documented. It has now reached the stage of application and demonstration projects. We are, for example, co-operating with the Organization for Economic Cooperation and Development in developing projects in member countries and it should be noted in this context that Austria, our host country, is the first to conclude such a project - an experimental programme for training middle-aged stonemasons using a method of discovery learning.

But the function of a plenary session speaker is not to enlarge on technical detail, but rather to acquaint the audience with research developments and to point up the problems for future consideration.

Our next and as yet unsolved problem takes us into the realms of social psychology. Evidence is now gathering that it is a formidable problem to steer older workers into training. This is evident from the sharp discrepancy which exists between the ages of entrants to training programmes designed for adults and the ages of those who are available for training.

In the United States about 39 per cent of the labour force is over 45 as compared with 11 per cent of those

receiving training under the Manpower Development and Training Act. In Great Britain the proportion is smaller; under 5 per cent of those being retrained in Government Training Centres are aged 45 or over. In France the figure for the corresponding training body, F.P.A., is insignificant and even for those over 35 years of age the figure is less than 4 per cent.

The shortage of older workers in these training programmes can only partly be explained by age discrimination. A more liberal policy on recruitment now prevails but it has not resulted in any sharp increase in the number of older workers being trained. On the other hand there is a good deal of evidence from case studies of retraining to indicate that anxiety about "making the grade" exerts a major influence in discouraging adults from participating in such programmes. The longer the gap between previous learning and the new training situation, the more serious this problem becomes. The very fact that a mature adult has been separated from learning for a long period may indicate an attitude of avoidance and disinclination towards learning. The adult who avoids training is likely to have been an early "casualty" or "drop-out" from the school educational system. The less skilled and less literate see no hope of learning new skills by the techniques of the once-rejected classroom or by methods of training which they associate with schoolroom tuition.

Hence, it is not surprising to find in some countries that downgrading is automatically accepted - or even sought - by the older workers themselves. Of 331 men rendered redundant by the closure of two British Railways Workshops, not one accepted opportunities for retraining. In Arizona, it was necessary to contact 900 migrant families in order to enrol 75 adult trainees. And when a group of older railway workers in Great Britain applied to an engineering firm, it was for unskilled work. It was management in this case who eventually persuaded them to enter a training school, where, perhaps as a result of new and stimulating techniques of training they are once again

doing semi-skilled work.

But reluctance to enter training is not confined to the unskilled and the poorly educated. There is a general reluctance on the part of the middle-aged industrial worker to present himself for retraining. Attention has been drawn to the fact that high seniority men are less likely to volunteer than low seniority men, believing that they may continue to enjoy the protective features of a seniority system. And we have observed in our recent studies that the man who has enjoyed the status which skill confers is loth to admit that his skill is really obsolete. He lacks confidence that he can acquire the same degrees of perfection in a new skill - especially if he is to be taught "by the youngster down the road". He prefers to stay in his old job until that job disappears.

Some unwillingness to enter training seems to be associated with fear of selection methods and aptitude testing. Traditional selection methods often prove a psychological as well as an attainment barrier to those whose acquaintance with paper and pencil techniques was never a close or affectionate one. It has recently been shown, however, that Mental and Aptitude Test scores can rise on average as much as 20 points for the 45 year-olds after 20 weeks of Vocational Training on activities quite unrelated to those measured. Thus the value of such tests may need reappraisal on technical grounds alone.

Although there are therefore a number of factors in the training environment liable to discourage the mature worker, the core of the problem is likely to be one of emotional adjustment.

The most promising means of ensuring re-orientation towards training on an individual basis would seem to be through personal counselling. As yet we are on the threshold of our knowledge of how counselling work can be adapted to the special needs of the middle-aged worker. There is certainly a need for an integrated service which could take account of information on established skills; personality and physical fitness on the one hand and job

opportunities, job demands and general employment trends on the other. Clearly this is a field in which a great deal of research and development will be demanded in future years.

A second possibility is to explore the cultivation of social norms in bringing about higher participation rates in training. The older worker is reluctant to enter as a lone individual into training situations which he considers more appropriate for younger men. But studies of re-training within an organization or of retraining programmes that have been taken into isolated communities have shown remarkably high older person participation rates. The common feature seems to be that retraining has become socially acceptable; the older participant is conscious that he is not an isolated individual but has peers who are also receiving training. We may surmise from this that training is more effective where it can be taken to the group and less effective where older people are recruited individually to form a new group. Policies for area redevelopment are therefore likely to prove attractive for redundant older workers.

In cases where it is impracticable to get older workers to enter into group training situations, account might be taken of recent advances in Home Study methods whereby adults are allowed to combine systematic Home Study with periodic practical training and group tutorials. A study this year in Great Britain has shown that the results of such methods can be comparable with results gained from attendance at formal courses.

This particular study has also shown that by far the most successful Home Study students were those who had maintained some form of learning activity after leaving school, even though this learning consisted of subjects quite unrelated to their course in Boiler Fuel Efficiency, for example - first aid, music, languages, wireless telegraphy, and so on.

We must remember that in studies of adult retraining we have in many countries been dealing with the products

of the depression years - those whose education was terminated prematurely, those who had less opportunities for equality of education, and those too, who for reasons stated earlier, had little inclination to pursue post-school education. Many of the future problems of adult reluctance or inability to learn might be solved if today's young worker could build continued learning so fully into his habit pattern that he took it for granted. This can only be done if training and retraining is organized on a periodic basis throughout working life. This is important if we are to prevent present generations of younger workers from having difficulties when they too become older.

These matters relate to developments that have either emerged at the present time or which are likely to assume increasing industrial importance during the immediate future. But we must avoid becoming so preoccupied with them that we lose sight of other problems that belong to the less immediate future and yet which we begin to see in our midst. It seems opportune to turn to the occupational problems of the middle-aged in relatively high grade jobs.

The effect of more widespread higher education and of improved facilities for vocational training is creating a new set of problems due to increased competition arising for better jobs. Graduates are now being recruited into jobs for middle-management and even for supervisory level jobs.

To illustrate the problems among the higher echelons, the Institute of Directors in Great Britain has estimated that 2000 directors and managers are becoming redundant each year as a result of mergers and dismissals and are usually finding great difficulty in obtaining any form of comparable employment. Very few are graduates.

Older people who have held relatively high grade jobs, whether directors, managers, supervisors or even skilled workers appear to be difficult to place in new jobs when their technical qualifications are rather lower than would be normal in the jobs they have previously held. Their experience too may count for little where it has been

gained in one firm. In fact, older worker experience is often something of a myth. One is reminded of the retort to the man who claimed 20 years' experience - "You mean one year's experience repeated 20 times". Those in higher occupational grades also appear then to have a need for retraining at various periods throughout their working life as a safeguard against the obsolescence of their skill or a loss in its market value.

But there is still a residue of age discrimination which is exercised in higher grade occupations against older people who cannot be faulted on any of the above points. The core of the problem seems to rest with the notion that however satisfactory an individual in, say, his 50's might be in his present job, he will not be able to extend his concepts, to adapt and modify behaviour developed in a previous situation to take account of the needs of the new situation.

How true is this generalisation? A progressive inability with age to organize new data can certainly be indicated at the sensory level. For example, adults who have gained sight after being blind from birth have shown an impairment in adapting to the visual environment and in overcoming reliance on touch and, in fact, never attain normal visual ability. This lack of adjustment is evident from age 20, but much more marked in later decades.

Is it not likely that some similar impairment underlies a failure to organise new data at higher cognitive levels? Here the evidence is uncertain. At the higher cognitive levels the exceptions are more striking than at the sensory levels. While lack of adaptability is very evident in many from middle maturity, yet some older people show exceptional powers of adaptability.

It seems consistent with the evidence to argue that trainability, adaptability and flexibility of mind have a certain common physical basis which physical ageing affects unfavourably, but that this can be compensated by practice in modifying and adapting behaviour. This practice in modifying and adapting behaviour tends to be lost with age

as the environment of mature adults and the elderly becomes increasingly stable.

As yet we have virtually no knowledge of what would happen if these two trends could be counterposed. What would we expect to happen if the environment of adults became less stable with age and required an increasing measure of learning and adjustment? We can only guess at the answer.

In this notion of two forces counterposed, one of the forces, that of the environment, is subject to man's control. The possibilities that are developing of changing jobs in middle life and the facilities that are being developed for learning new skills - and which are arising out of the needs of modern society - promise to modify one of these forces. Learning in middle age and even late maturity may no longer become an exceptional activity. It is our hypothesis that such activity will not only improve the vocational qualifications of adults, but prolong that flexibility of mind which is rated so highly in the changing of jobs.

To sum up, we have seen from our excursions into the occupational problems of the middle-aged that, irrespective of the grade of skill or education, real security of employment must rest on the ability to move from one job to another and here training of the middle-aged in new skills has a vital role to play. A new outlook should pervade education and training. We should get away from the ritual of the long learning period with formalized qualifications. Facts will soon become outdated. We must re-orientate our thinking towards acceptance of learning throughout life in a flexible pattern of work and study.

The industrial gerontologist will see the immensity of the challenge that presents itself. Our focus on the problem of being able to train a middle-aged worker for a specific job can be seen as only one fragment of a much larger picture. To develop a programme that will be equal to the needs of the situation we shall require to build up an inter-disciplinary approach. We shall need to predict

how far an individual can develop new skills and abilities having regard to his current abilities and job history. We shall need to identify job facilities that can use to maximum his previous experience while furthering his occupational prospects. We must learn to identify the emerging pattern of occupational change that can justify long-term programmes of individual training and development. And we must too be able to apply the most up-to-date knowledge of selection, training and placement techniques in equipping older workers for tomorrow's jobs.

These are some of the matters around which industrial gerontologists may feel motivated to conduct their research in the future.

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